

in 1817; (3) a facsimile of one of the thirteen synoptic charts prepared by Elias Loomis in 1843, in connection with his investigation of two storms that occurred in 1842; (4) the weather chart, with isobars, that Le Verrier published in France on September 11, 1863, as the first daily weather chart on the basis of telegraphic reports; (5) the chart, with isobars, which is twelve years older than Le Verrier's, being that which was published daily for sometime in the year 1851, during the World's Fair at London; (6) a facsimile of the first chart of average isobars for any country, being that published for France in 1864 by Renou.

These reprints by Dr. Hellmann awaken one's interest in the history of the development of meteorology, and we can but hope that, in the abundance of his knowledge of ancient literature, he will discover some early American works that are worthy of being reprinted among his classics.

#### MEXICAN CLIMATOLOGICAL DATA.

In order to extend the isobars and isotherms southward so that the students of weather, climate and storms in the United States may properly appreciate the influence of the conditions that prevail over Mexico the Editor has translated the following tables from the current numbers of the *Boletín Mensual* as published by the Central Meteorological Observatory of Mexico. The data there given in metric measures have been converted into English measures. The barometric means are as given by mercurial barometers under the influence of local gravity, and therefore need reductions to standard gravity, depending upon both latitude and altitude; the influence of the latter is rather uncertain, but that of the former is well known. For the sake of conformity with the other data published in this REVIEW these corrections for local gravity have not been applied. One additional station, Topolobampo, is published at the end of Table II.

#### Mexican data for December, 1896.

Stations.	Altitude.	Mean barometer.	Temperature.			Relative humidity.	Precipitation.	Prevailing direction.	
			Max.	Min.	Mean.			Wind.	Cloud.
	<i>Feet.</i>	<i>Inch.</i>	<i>° F.</i>	<i>° F.</i>	<i>° F.</i>	<i>%</i>	<i>Inch.</i>		
Agua Calientes .....	6,113	23.86	85.1	38.4	59.4	36	0.00	n.	
Campeche .....									
Colima (Seminario) ..	1,600								
Colima .....					75.4				
Culliacan .....	112								
Guadalupe (O. d. E.) ..	5,141	25.08	77.0	29.8	57.6	86	0.00	nw.	w.
Guanaquato .....	6,761	23.73	73.8	37.2	55.6	48	1.50	sw.	sw.
Jalapa .....	4,767	25.02	87.8	42.8	57.4	80	T.	n.	
Lagos (L. G.) .....	6,276	24.19	77.5	35.5	54.0	68	0.00	ne.	ne.
Leon .....	5,901	24.35	74.8	27.7	54.5	51	0.00	ssw.	sw.
Magdalena (Sonora) ..			68.0	50.0	59.0		1.73	nne.	n.
Mazatlan .....	25	29.96	83.1	61.3	73.9	64	T.	nw.	sw.
Merida .....	50	30.04	89.8	55.4	71.6	76	2.09	ne.	sw.
Mexico (Obs. Cent.) ..	7,489	23.11	71.6	34.7	53.0	61	0.61	nw.	sw.
Mexico (E. N. de S.) ..	7,480								
Morelia (Seminario) ..	6,401	24.01	78.4	34.7	53.8	67	0.33	ne.	w.
Oaxaca .....	5,164	25.13	81.9	37.6	61.0	62	0.76	nw.	ne.
Pabellon .....	6,312								
Pachuca .....	7,956	22.56	73.0	38.8	50.5	64	0.00	nne.	ne.
Puebla (Col. d. Est.) ..	7,118								
Puebla (Col. Cat.) .....	7,112	23.33	75.2	35.2	55.0	65	0.53	e.	ne.
Queretaro .....	6,070								
Saltillo (Col. S. Juan) ..	5,377								
San Luis Potosi .....	6,302	24.20	70.7	31.3	54.4	65	0.14	e.	w.
Silao .....	6,083	24.34	69.6	40.3	57.2	65	T.	w.	sw.
Tacámbaro .....									
Tacubaya (Obs. Nac.) ..	7,630								
Tampico (Hos. Mil.) ..	38								
Tehuacan .....	5,458								
Toluca .....	6,613	21.93	68.7	35.2	49.1	63	1.08		
Trejo (H. de S., Gto.) ..	6,011						0.00	e.	
Trinidad .....	6,011								
Veracruz .....	48								
Zacatecas .....	8,015	22.55	74.8	34.8	52.0	58	0.00	ne.	ne.
Zapotlan (Seminario) ..	5,125								

\*Trejo appears to have the same altitude as the next station, Trinidad, but this may be a typographical error in the December *Boletín*.  
†Trinidad is 14 kilometers east-southeast of Leon.

#### ANNUAL MEANS FOR 1895.

The following table is taken from the general synopsis published in the *Boletín Mensual* for December, 1896, page 171,

which is a summary of the annual tables published at occasional intervals in the *Boletín* during the past year. A corresponding synopsis for 1896 will, doubtless, also soon become available. These annual summaries are essential as a basis for the reduction of the pressure and temperature to sea level, which reduction must be carried out for normal and annual values before discussing monthly means or individual observations. The altitudes here given are taken from the respective annual tables from which this synopsis is quoted; unfortunately they differ sometimes from the altitudes given in the monthly tables for 1896, but we may not go far wrong in assuming that the barometers have remained in the same location during both these years and that the changes in the figures are simply the result of a revision of the adopted altitudes. Nothing is published as to the manner in which these altitudes have been determined, possibly many of them may be the result of barometric computations, in which case the reduced pressures will have a corresponding uncertainty. In accordance with the other Mexican data the barometric means have not been reduced to standard gravity and, in fact, the values of local gravities at the respective stations is, as yet, not known by actual observation but may be approximately computed by Mr. Putnam's formula, as given on page 463 of the MONTHLY WEATHER REVIEW for December, 1896.

#### Annual synopsis for 1895; Mexican stations.

Stations.	Altitude for 1896.	Barometer (mean).	Temperature.			Mean humidity.	Days with rain.	Total precipitation.	Wind prevailing direction.	Clouds.	
			Mean annual.	Maximum (absolute).	Minimum (absolute).					Mean cloudiness.	Prevailing direction.
Guanaquato .....	6,640	23.66	65.5	91.9	36.0	48	100	23.68	ssw.	40	ne.
Jalapa .....	4,767	25.55	63.5	91.0	33.8	62	147	51.30	nne.	44	sw.
Leon .....	5,901	24.29	65.7	91.0	32.0	47	113	30.92	sw.	44	sw.
Mazatlan .....	25	29.92	76.8	104.0	56.8	77	75	42.85	n.	50	ne.
Merida .....	50	29.95	78.4	94.9	47.8	71	97	29.29	ne.	47	se.
Mexico .....	7,473	23.07	60.3	87.8	32.9	57	145	22.01	n.	50	ne.
Morelia .....	6,401	23.96	61.9	93.7	37.4	63	185	32.06	ssw.	49	w.
Oaxaca .....	5,164	25.11	69.4	90.2	39.2	61	106	28.08	w.	44	e.
Pachuca .....	7,956	22.50	57.9	88.8	32.4	50	106	10.86	nne.	37	ne.
Puebla .....	7,118	23.35	60.6	91.4	32.0	60	113	23.55	ne.	45	n.
Puebla (Col. Cat.) .....	7,112	23.37	63.0	90.1	37.6	60	124	27.09	e.	37	se.
Queretaro .....	6,070	24.18	64.9	90.2	32.9	59	67	9.45	e.		
Real d. Montel .....	9,085	21.59	55.4	89.6	31.6	...	82	24.45	...	37	...
Saltillo .....	5,377	24.85	63.7	90.2	31.8	72	77	23.46	ne.	33	n.
San Luis Potosi .....	6,302	24.14	63.9	90.4	26.1	59	64	11.25	e.	41	w.
Tacubaya .....	7,630	22.97	58.6	81.5	26.6	61	186	24.72	nw.	44	...
Toluca .....	6,613	21.91	54.9	90.0	24.4	59	154	26.12	ws.	44	...
Zacatecas .....	8,189	22.54	60.1	19.0	55	64	10.70	sw.	36	se.	...

\*These altitudes for 1895 differ from those published in the respective monthly summaries for 1896. In the absence of positive information it may be assumed that the barometers were not removed, but that the adopted altitudes have been revised from time to time.

†This station does not appear among the monthly summaries of 1896.  
‡The monthly and annual barometric means are published to the nearest tenth of a millimeter, but for all other stations to the nearest hundredth.

§Sw. & wsw.

#### METEOROLOGY IN THE PUBLIC SCHOOLS.

In the MONTHLY WEATHER REVIEW for December, 1895, Vol. XXIII, page 458, the Editor has referred to the excellent results attained in school work by utilizing, as a basis for discussion and mental training, such elementary observations of the weather as can be made by any child. When the scholars in any class are encouraged to keep personal diaries and notes of atmospheric phenomena their perceptive faculties are rapidly developed; when these diaries are compared and the ideas that are suggested by the pupils are discussed under the leadership of a wise teacher, the analytical faculties of the mind are developed, the study of nature is encouraged, erroneous ideas are supplanted by careful generalizations, and experience comes to be esteemed more highly than inherited myths and legends. The highest development of this method of studying meteorology will undoubtedly be